Claims

1. Controller for a hydrostatic traversing mechanism (1) with at least one hydraulic pump (2), which is connected via a first and a second main duct (7, 8) to a first hydraulic motor unit (5, 5') which drives a front axle and a second hydraulic motor unit (6, 6') which drives a rear axle, the absorption volume of the first and the second hydraulic motor unit (5, 5', 6, 6') being adjustable via a first and a second variation device (30, 31, 30', 31') respectively, and a direction of motion being specified as forward motion (F) or backward motion (R) by a position of a driving lever (37),
characterized in that
the first and second variation device (30, 31, 30', 31') are controlled by a control valve (32, 32'), the control valve (32, 32') taking a first switch position in the case of forward motion (F) being defined by the position of the driving lever (37) and a second switch position in the case of backward motion (R) being defined by the position of the driving lever (37), in the first switch position the first variation device (30, 30') being controlled so that the first hydraulic motor unit (5, 5') is adjusted in the direction of smaller absorption volume, and in the second position the second variation device (31, 31') being controlled so that the second hydraulic motor unit (6, 6') is adjusted in the direction of smaller absorption volume.

2. Controller for a hydrostatic traversing mechanism (1) with at least one hydraulic pump (2), which is connected via a first and a second main duct (7, 8) to a first hydraulic motor unit (5, 5') which drives a front axle and a second hydraulic motor unit (6, 6') which drives a rear

axle, the absorption volume of the first and the second hydraulic motor unit (5, 6, 5', 6') being adjustable via a first and a second variation device (30, 31, 30', 31') respectively, and with an inclination sensor (70) to determine a direction of inclination as uphill inclination or downhill inclination,
characterized in that
the first and second variation device (30, 31, 30', 31') are controlled by a control valve (32, 32'), the control valve (32, 32') taking a first switch position in the case of uphill inclination and a second switch position in the case of downhill inclination, in the first switch position the first variation device (30, 30') being controlled so that the first hydraulic motor unit (5, 5') is adjusted in the direction of smaller absorption volume, and in the second position the second variation device (31, 31') being controlled so that the second hydraulic motor unit (6, 6') is adjusted in the direction of smaller absorption volume.

3. Controller according to Claim 1 or 2,
characterized in that
in the first switch position of the control valve (32, 32') a control pressure is applied to a control surface (28, 28') of a control valve (24, 51) of the first variation device (30, 30'), and a control surface (29, 29') of a control valve (25, 52) of the second variation device (31, 31') is connected to a tank volume (11), and in the second switch position of the control valve (32, 32') the control surface (28, 28') of the control valve (24, 51) of the first variation device (30, 30') is connected to the tank volume (11), and the control pressure is applied to the control surface (29, 29') of the control valve (25, 52) of the second variation device (31, 31').

4. Controller according to one of Claims 1 to 3, characterized in that the control pressure is generated by an auxiliary pump (9).

5. Controller according to one of Claims 1 to 4, characterized in that the control valve (32) is a 4/2-way valve.

6. Controller according to one of Claims 1 to 4, characterized in that the control valve (32') is a 4/3-way valve.

7. Controller according to Claim 6, characterized in that in a third switch position, the control surfaces (28, 29, 28', 29') of the control valves (24, 25, 51, 52) of the first and second variation device (30, 31, 30', 31') are connected to the tank volume (11).

8. Controller according to one of Claims 1 to 7, characterized in that the control valve (32, 32') is actuated electromagnetically.

9. Controller according to one of Claims 1 to 8, characterized in that the first and second hydraulic motor unit (5, 6) each include at least two hydraulic motors (22, 22', 23, 23'), of which at least one can be switched on and off to change the absorption volume of the hydraulic motor unit (5, 6).

10. Controller according to one of Claims 1 to 8, characterized in that
the first and second hydraulic motor unit (5', 6') each include an adjustment motor (55, 56).

11. Controller according to Claim 10, characterized in that
the control valve (32') is continuously adjustable between the first and second switch position.

12. Controller according to Claim 11, characterized in that
the control valves (51, 52) are continuously adjustable between two final positions.

13. Controller for a hydrostatic traversing mechanism (1) with at least one hydraulic pump (2), which is connected via a first and a second main duct (7, 8) to a first hydraulic motor unit (5, 5') which drives a front axle and a second hydraulic motor unit (6, 6') which drives a rear axle, the absorption volume of the first and the second hydraulic motor unit (5, 6, 5', 6') being adjustable via a first and a second variation device (30, 31, 30', 31'), characterized in that
the first and second variation device (30, 31, 30', 31') are controlled by a control valve unit (80), the control valve unit (80) taking a first or second switch position depending on the sign of the pressure difference between the first and second main duct (7, 8), and in the first switch position the first variation device (30, 30') being controlled so that the first hydraulic motor unit (5, 5') is adjusted in the direction of smaller absorption volume, and in the second position the second variation device (31,

31') being controlled so that the second hydraulic motor unit (6, 6') is adjusted in the direction of smaller absorption volume.

14. Controller according to Claim 13, characterized in that the control valve unit (80) includes a selection valve (81) and a relief valve (82), and that in a first switch position of the selection valve (81) a first input (89) of the relief valve (82) is connected to the first main duct (7) and in a second switch position a second input (90) of the relief valve (82) is connected to the second main duct (8), the first or second main duct (7, 8) which is connected to the relief valve (82) being the one with the lower pressure.

15. Controller according to Claim 14, characterized in that a control surface (28, 28') of a control valve (24, 51) of the first variation device (30, 30') is connected to the first input (89) of the relief valve (82), and that a control surface (29, 29') of a control valve (25, 52) of the second variation device (31, 31') is connected to the second input (90) of the relief valve (82).

16. Controller according to Claim 15, characterized in that the relief valve (82) is switched into a first or second position depending on the pressure which is present at a first or second input (89, 90), in the first position the second input (90) being connected to a tank volume (11), and in the second position the first input (89) being connected to the tank volume (11).

17. Controller according to one of Claims 13 to 16, characterized in that
the first and second hydraulic motor unit (5, 6) each include at least two hydraulic motors (22, 22', 23, 23'), of which at least one can be switched on and off to change the absorption volume of the hydraulic motor unit (5, 6).

18. Controller according to one of Claims 13 to 16, characterized in that
the first and second hydraulic motor unit (5', 6') each include an adjustment motor (55, 56).

19. Controller according to Claim 18, characterized in that
the selection valve (81) and relief valve (82) are continuously adjustable between appropriate final positions.

20. Controller according to Claim 19, characterized in that
the control valves (51, 52) are continuously adjustable between two final positions.

21. Controller according to one of Claims 13 to 20, characterized in that
between the selection valve (81) and the relief valve (82) an over-control valve (100), which in its idle position connects a first and second output of the selection valve (81) to the first input and second output (89, 90) of the relief valve (82), and which in an over-control position connects both outputs (87, 88) of the selection valve (81)

to both inputs (89, 90) of the relief valve (82), is provided.

22. Controller according to Claim 21, characterized in that the relief valve (82) is in a third position if the over-control valve (100) is in its over-control position, and in the third position of the relief valve (82) its first and second input (89, 90) are connected to the tank volume (11).

23. Controller according to one of Claims 13 to 22, characterized in that one control valve unit (80) is integrated into each of the first hydraulic motor unit (5, 5') and second hydraulic motor unit (6, 6').

24. Controller according to one of Claims 1 to 23, characterized in that the change of the absorption volume of the first or second hydraulic motor unit (5 or 6, 5' or 6') in the direction of smaller absorption volume is compensated for by a corresponding change of the absorption volume of the other hydraulic motor unit (6 or 5, 6' or 5') in the direction of greater absorption volume.